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ABSTRACTS OF PATENTS

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Pat. 2,460,117. STILL AND DECANTER FOR THE RECOVERY OF PRODUCTS FROM ALCOHOLIC SOLUTIONS OF OLEAGINOUS MATERIALS, Arthur C. Beckel and Paul A. Belter, patented January 25, 1949. The apparatus is designed for continuously concentrating a liquid extract to remove volatile solvent, and is particularly adapted for removing an alcoholic solvent from an extract mixture of alcohol and alcohol-solubles from soybeans. It comprises a first and a second circulatory system, each characterized by an elongated evaporator tube, a vapor disengaging chamber, and a liquids separator. Liquid extract is fed into the first stage through the evaporator and then into the vapor disengager. The vapor is condensed and recovered, and the liquid alcoholic solvent and oil are led to the liquids separator where phase separation occurs. The separator is connected with the second stage for the purpose of withdrawing the alcoholic solvent phase and treating it in a manner similar to that effected in the first stage. Lecithin, sugar, and oil are recovered as the subnatant layer in the second stage liquids separator, where also alcoholic solvent is withdrawn, and alcohol vapors are condensed for reuse, such as in extraction processes.

Pat. 2,461,070. PROCESS TO PRODUCE A STABILIZED PROTEIN-FORMALDEHYDE DISPERSION, Leonard L. McKinney, patented February 8, 1949. An alkylene oxide is reacted with a protein to obtain a protein product capable of forming a stable dispersion with formaldehyde.

Pat. 2,461,746. AERATOR, Elbert C. Lathrop and Samuel I. Aronovsky, patented February 15, 1949. An apparatus is described for aerating a fluid material in such a way that downwardly flowing streams of the material enfold air and are then subjected to agitation to distribute the air in minute bubbles throughout the material. The apparatus consists of a vessel containing a circular partition, the lower section of which is imperforate and the upper section comprises a plurality of vertical strips which define a plurality of weirs. At the bottom of the partition is situated an impeller for agitating an impelling fluid material downward at the bottom of the partition from whence it flows upward about the outside walls of the vessel, through the weirs and down again. The apparatus was designed particularly for aerating a cork substitute material.

Pat. 2,462,981. METHOD FOR THE PRODUCTION OF ITACONIC ACID, Lewis B. Lockwood and Andrew J. Moyer, patented March 1, 1949. A carbohydrate-containing nutrient medium is fermented with molds of the genus Aspergillus. Non-toxic mineral acids or ammonium salts of non-toxic mineral acids are added to bring the range of hydrogen ion concentration to pH 1.4 to pH 2.8. Before adding the acid or salt the mold spores preferably are allowed to germinate and accomplish slight mycelial growth. The process produces good yields of itaconic acid in short fermentation time, and is readily adaptable to submerged aeration techniques.

Pat. 2,463,784. METHOD OF PREPARING PENTONIC ACIDS FROM PENTOSES, Lewis B. Lockwood, patented March 8, 1949. A nutrient medium containing an aldo-pentose is inoculated with bacteria of the genus Pseudomonas. The mash may be aerated by known methods. Pure synthetic nutrients may be used. The fermentation produces pentonic acids in good yield. Thus d-arabinose is converted into d-arabonic acid, and ribose or xylose are converted into the corresponding pentonic acids. The process possesses technical advantages over the known use of acetic acid bacteria for this purpose.

Pat. 2,467,798. 5,5'-DIHYDROXYLDIAMYL ETHER, Kliem Alexander and Lester E. Schniepp, patented April 19, 1949. Diesters of oxydivaleric acid are reduced with the aid of sodium and alcohol to produce 5,5'-dihydroxydiamyl ether having the formula:

$$HO-(CH_2)_5-O-(CH_2)_5-OH$$

This compound is useful as a plasticizer, as a chemical intermediate, and as a high-boiling solvent.

Pat. 2,469,147. PROCESS FOR THE RECOVERY OF OIL AND BYPRODUCTS FROM ALCOHOLIC SOLUTIONS OF OLEAGINOUS MATERIALS, Arthur C. Beckel and Paul A. Belter, patented May 3, 1949. In a process for extracting soybean oil and lecithin from soybean material by hot alcoholic solvents, the alcoholic extract is cooled to separate part of the soybean oil, leaving an extract containing residual soybean oil. The invention comprises an improvement for recovering the alcohol and removing the residual soybean oil and lecithin from the extract. The extract is treated in a multi-stage continuous process by which the alcohol is continuously vaporized to concentrate the extract, thus causing the continuous separation of vegetable oil. The separated vegetable oil is removed from the concentrated extract, and part of the extract is recycled to the vaporizing step and part is treated by further evaporation and concentration to separate the lecithin. The first evaporating stage is so controlled that concentration to the point of lecithin separation is prevented.

Pat. 2,472,168. PROCESS FOR THE PREPARATION OF D-GLUCOSACCHARIC ACID, Charles L. Mehltretter, Carl E. Rist, and Benjamin H. Alexander, patented June 7, 1949. D-Glucosaccharic acid is manufactured by the catalytic oxidation of dextrose or dextrose hydrate. The oxidation is carried out in the presence of a platinum catalyst. It is advantageous to conduct the reaction under conditions of vigorous agitation. The reaction is carried out at pH 5.0 to pH 9.6 by adjusting the pH when necessary with a basic compound, such as an alkali metal hydroxide, carbonate, oxide, etc. If potassium bicarbonate is used, the desired acid may be conveniently recovered as its potassium salt.

Pat. 2,475,261. STARCH RECOVERY PROCESS, Richard L. Slotter and Justin M. Tuomy, patented July 5, 1949. Wheat starch slurries which are normally difficult to filter are treated by an ageing step. The slurry is derived by treating wheat flour with water and separating the aqueous starch milk from the gluten, the resulting slurry containing appreciable amounts of soluble protein. For ageing, the slurry is allowed to stand for 10 to 50 hours, during which the pH falls below 7.0. The supernatant liquid is then decanted and the settled starch is washed. The starch may then be filtered easily.

Pat. 2,476,107. METHOD FOR PRODUCTION OF PENICILLIN, Andrew J. Moyer, patented July 12, 1949. Penicillin is produced by use of an aqueous nutrient medium containing 5 to 100 grams of a source of assimilable carbon and 5 to 100 grams of a degraded proteinaceous material per liter of medium. Penicillin producing molds, such as Penicillium notatum Westling, P. chrysogenum Thom, P. baculatum Westling, and P. cyaneo-fulvum Biourge are used. The carbon source may be an assimilable organic acid, polyhydric alcohol, or carbohydrate. The proteinaceous material may be proteoses, peptones, polypeptides, peptides, and amino acids. Preferred specific nutrients are lactose and corn-steeping liquor.

Pat. 2,477,116. PROTECTIVE COATING COMPOSITIONS AND METHODS FOR PRODUCING THE SAME, John C. Cowan and Howard M. Teeter, patented July 26, 1949. Polymeric fat acids, polymers of the order of 2 or 3 fat acid residues, are caused to react chemically with divalent metal bases to form salts. The salts, particularly the zinc salt, are of a resinous nature and are valuable in coating compositions.

Pat. 2,478,243. METHOD OF PRODUCING PROLAMINE FILAMENTS, Clarence B. Croston and Cyril D. Evans, patented August 9, 1949. A process is claimed for the production of a prolamine filament. An aqueous alkaline dispersion of a prolamine, such as zein, is reacted with an aldehyde equal to 1/2 to 10 percent of the weight of the prolamine. The treated dispersion is then spun into an acid bath to coagulate the prolamine, and the spun filament is then cured in a bath containing an acid and an aldehyde. The curing bath has a pH between 1 and 3, and the curing temperature ranges from 30° to 55° C. The cured filament is washed, stretched, and dried, after which it is heated to between 140° and 180° C. The final baking treatment increases water resistance and prevents blushing.

Pat. 2,481,263. FERMENTATION PROCESS, Henry M. Tsuchiya, James M. Van Lanen and Asger F. Langlykke, patented September 6, 1949. A mixture of acetone, butanol, and ethanol are produced by the fermentation of a crude xylose-containing liquor such as may be obtained by the acid hydrolysis of corncobs. Organisms used are from the known class of butyl-acetonic bacteria, for example, Clostridium A-14 (NRRL-B-594). Toxic materials are removed from the crude liquor by the addition of finely divided iron. Furthermore, the crude liquors may be benefited by neutralization while hot; also, the neutralized liquor may be "flash" sterilized prior to inoculation. These treatments serve to remove materials deleterious to the fermentation process, and do so without materially altering beneficial factors inherently present in the liquors. As a result, the liquors can be fermented successfully without the addition of farinaceous materials, and the requirement for expensive nutrients is minimized.

Pat. 2,483,791. DIENE ADDITION PRODUCT AND PROCESS FOR MAKING IT, Howard M. Teeter, Charles R. Scholfield and John C. Cowan, patented October 4, 1949. Alkyl esters of conjugated polyunsaturated fat acids, such as alkyl esters of conjugated linoleic acid, are condensed with derivatives of crotonic acid to form a product useful in the preparation of plasticizers, softening agents, and are valuable intermediates in the preparation of high polymeric materials. A molecular excess of crotonic acid esters or crotononitrile is heated with the fat acid ester at 175-275° C. Conjugated dienic high molecular weight alcohols having the carbon skeleton of a semi-drying oil fatty acid may be used in place of the polyunsaturated ester.